Approved (csic 3-15-05 Stall for Next to Last PipeStage (NLP)

Stall (NLp) = Valid Instruction in Pipe (NLp) AND (ThreadId <math>(NLp) = ThreadId of Stall)

Stall for any other PipeStageX

 $Stall_{(X)} = Valid Instruction in Pipe_{(X)} AND Valid Instruction in Pipe_{(X+1)} AND Stall_{(NLP)}$

Powerdown for any PipeStage X

Powerdown_(X) = NOT Valid Instruction in Pipe_(X-1)

Clock Enable for any PipeStage X

Clock(X) = NOT Stall(X) AND NOT Powerdown(X)

Clock for any PipeStage X

NOT Clock_(X) AND [(ClearThread(Id0) AND (ThreadId(X) = Id0)) OR (ClearThread(Id1) AND (ThreadId_(X) = Id1))] Clear(X) = Clock(X) AND $[(ClearThread_{Id0})$ AND $(ThreadId_{X-1}) = Id0)$) OR $(ClearThread_{Id1})$ AND $(ThreadId_{X-1}) = Id1)$)]

OR

ClearThread (140) = There was a Clear on Thread Identification 0

ClearThread (1d1) = There was a Clear on Thread Identification 1

Pipe(X) = Any pipestage in the decode

Pipe(X-1) = Pipestage before Pipe(X)

Pipe(X+1) = Pipestage after Pipe(X)

FIG. 7